

Regulation by bandwidth is an admirable goal but the latest proposal was rejected by the FCC. This petition is not an attempt to move that direction but simply and attack on wide bandwidth modes current and future, specifically PACTOR III. There are several reasons this petition must be rejected.

1. It destroys existing investment by amateurs as well as local, state and federal governments.

Many amateur operators have invested heavily in the systems to support these modes. Although these modes can be used for personal purposes, many of these systems were purchased specifically to assist in emergency communications. Additionally, many of these systems have been purchased with government dollars. In our area, nine systems were recently deployed with grant money from the Department of Homeland Security. If narrower bandwidth modes were necessary, it would have been good to know this before the investment was made.

2. It would severely limit the ability of amateur radio to fulfill its emergency response charter.

Our region has an outstanding packet network at one time. Recently, there has been an effort to revive it. We have also started work with newer modes like DStar. Ultimately, the terrain limits our ability to seriously use VHF/UHF networks, no matter how well implemented. We find during search and rescue missions, even voice communications with multiple relays can be a challenge through the mountain ranges. HF analog or digital is the only nearly 100% solution.

Given the current lull of the sunspot cycle, this crowds all HF users into just a few open bands. Interference is an inevitable issue best mitigated by good operating practice, not additional regulation.

3. The petition focuses solely on bandwidth usage as a measure of interference potential but neglects time. Assuming a perfectly scalable protocol, is transmitting a 500Hz wide signal for 20 minutes, really preferable to transmitting 2000Hz for 5 minutes? There is a serious impact to the user – 20 minutes may simply be too long. Pactor III offers a number of performance advantages including the ability to deliver a message in a timely fashion and clear the channel.
4. Some of the figures and tables disagree with the hypothesis of the petition. In item 14 the petition states “Limiting maximum necessary bandwidth to 1.5 kHz will not be detrimental to the stations that use PACTOR III. In fact, spectral efficiency will improve and the more robust speed levels of PACTOR III (SL1 and SL2) will meet the 1.5 kHz necessary bandwidth limit in the 80 through 12 meter bands.”

It clearly is detrimental to PACTOR III users firstly for the reason I mention above (timely delivery of messages). Additionally, in figure 3 immediately above, it shows PACTOR III

reaches its maximum spectral efficiency of 114% (much higher than PACTOR II at only 84%) at its maximum bandwidth of 2200Hz.

Later in item 14 it states” Limiting maximum necessary bandwidth to 1.5 kHz will end the use of spectrally inefficient modes and return the RTTY/Data portions of the 80 through 12 meter bands to narrow bandwidth operation.”

In item 14 the petition refers to PACTOR III’s “robust speed levels” which are clearly not high performance or the spectrally efficient mentioned below. It is generally easy to trade robustness for performance (spectral efficiency). If the goal is to maximize “spectral efficiency” why would PACTOR III’s most efficient mode be excluded and RTTY (and AM for that matter) still be allowed?

5. There are clearly some points of agreement. It would be great to have a bandplan that protected all users from interference. Amateur operators (both analog and digital) could certainly be better about minimizing interference. The FCC regulations in this area are quite old and difficult to apply accurately.

Digital mode software has difficulty detecting a busy channel (not too many users use squelch on HF). I haven’t seen any PSK or RTTY software handle it either. Perhaps digital modes should all be relegated to their own spectrum. To determine appropriate band allocations, it would be interesting to look at not just the number of users of a given mode but the amount of traffic passed. Similar to the justification of carpool lanes - it’s not the number of vehicles but the number of passengers that counts. Digital modes of all types clearly hold an advantage when passing traffic.

I would like to thank the FCC for the continued support of amateur radio.

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